A systematic review identified retrospective and prospective observational studies reporting 12-, 18-, or 24-month persistence with denosumab, an osteoporosis therapy approved in 2010. Searches covered the period January 2011–May 2014 and were conducted in the PubMed and EMBASE databases, and conference abstract supplements from ACR, AMCP, ASBMR, WCO-IOF-ESCEO, and ISPOR. To be eligible, studies needed to report at least one estimate of persistence with denosumab in patients with osteoporosis, have a clear definition of persistence, and be in English language. Using a random effects model, pooled estimates of denosumab persistence were calculated for retrospective and prospective studies separately. A subgroup analysis was conducted based on geographical regions. **RESULTS:** The search identified 338 unique citations in PubMed and EMBASE, and 200 conference abstracts. After applying the eligibility criteria, 11 studies were included in the final review and meta-analysis (7 retrospective; 4 prospective). All studies reported at least one estimate of 12-month persistence; 9 studies included females only. For retrospective studies, the pooled persistence estimates were 74.6% (95% CI: 65.4-82.9) at 12 months, 67.6% (65.2-70.0) at 18 months, and 57.2% (51.8-62.5) at 24 months. For prospective studies, the pooled estimate of 12-month persistence was 89.0% (95% CI: 84.6-92.7). In the subgroup analysis, European studies had higher pooled 12-month persistence estimates compared with North American studies (retrospective: 78.6% vs. 68.9%; prospective: 91.5% vs. 85.3%). **CONCLUSIONS:** To our knowledge, this is the first systematic review and meta-analysis of persistence with denosumab in patients with osteoporosis. We identified a growing body of evidence, both prospective and retrospective, suggesting persistence to denosumab is higher than previously reported for other OP therapies[1].1. Kothawala P, et al. Mayo Clinic. 2007; 82 (12): 1493-501.

PMS64

PERSISTENCE RATE WITH SUBCUTANEOUS BIOLOGIC THERAPIES IN PATIENTS WITH RHEUMATOID ARTHRITIS (RA)

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OBJECTIVES: This study examined persistence over 12 months for RA patients who were newly treated with subcutaneous biologics, and assessed if there are differences between patients with and without prior DMARDs experience. **METHODS:** In this retrospective cohort study using Electronic Medical Record database of IMS Disease Analyzer-Germany, adult (≥ 18 years old) RA patients with exposure to a subcutaneous biologic between January 1, 2009 and June 30, 2012 were identified. The first prescription date for the subcutaneous biologic agent was defined as their index date. Patients were excluded from the study if they were prescribed a biologic agent during the pre-index period, and/or diagnosed with ankylosing spondilitis, psoriatic arthritis, or other conditions treated with subcutaneous biologics either pre- or post-index. A chi-square test was used to assess significant differences in the percentage of persistent patients between those with and without DMARD use and a logistic regression model was used to control for differences in baseline demographic and clinical characteristics. **RESULTS:** A total of 576 RA patients without prior biologic experience met the study selection criteria; 471 were DMARD experienced and 105 were DMARD naive. The mean (SD) age of the patients was 57 (13), with 75% being female. The majority of patients indexed on etanercept (46%) or adalimumab (40%). Forty eight percent of the patients persisted on their index biologic over the 12 months post-index period, with the rate significantly higher among those with pre-index DMARD use (51% vs. 31%; p=0.0012). After controlling for pre-index characteristics, patients with pre-index DMARD had 2.23 times the odds of being persistent compared to those without pre-index DMARDs (OR: 2.23, 95% CI: 1.37-3.62). **CONCLUSIONS:** Approximately half of biologic naïve RA patients were persistent over a 12-month period with their index subcutaneous biologic, with rates significantly higher among patients with pre-index DMARD.

PMS65

PERSISTENCE RATE WITH SUBCUTANEOUS BIOLOGIC THERAPIES IN PATIENTS WITH ANKYLOSING SPONDYLITIS (AS)

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OBJECTIVES: This study aimed to describe persistence with subcutaneous biologics among biologic naïve AS patients over 12 months, and to identify differences among patients with and without NSAID drug experience. **METHODS:** This retrospective study used IMS Disease Analyzer-Germany, an electronic medical records database. Data for adult (≥18 years of age) AS patients with a prescription for subcutaneous biologic between January 1, 2009 and June 30, 2012 were used for this analysis. The index date was the date of the first subcutaneous biologic prescription. Prescription for any biologic during the pre-index period or diagnosis for rheumatoid arthritis, psoriatic arthritis or other conditions treated with subcutaneous biologics either in pre- or post-index qualified patients for exclusion from the study. Differences between pre-index NSAID naïve and experienced patients were measured using a chi-square test. A logistic regression model was used to further assess the impact of NSAID use on persistence, controlling for baseline characteristics. **RESULTS:** The study cohort included a total of 108 biologic naïve AS patients, 72 with use of NSAIDs in the pre-index period. The mean age of the AS cohort was 42 years, with 70% of patients being male. Adalimumab, etanercept, and golimumab were initiated by 61%, 28%, and 11% of patients, respectively. Persistence for at least 12 months with the index subcutaneous biologic was observed in 46.3% of the overall cohort, with similar results among those with and without NSAID use (47% vs 44%, respectively). Multivariate analysis confirmed similar persistence between those with and without pre-index NSAID (OR: 0.97; 95% CI: 0.39-2.44). **CONCLUSIONS:** Findings from this German study showed that less than half of AS patients are persistent with the index subcutaneous biologic over a 12 month period. Results were similar irrespective of prior use of NSAIDs.

PMS66

DETERMINANTS OF NON-PERSISTENCE TO ANTIOSTEOPOROTIC DRUGS BY USING ADMINISTRATIVE DATABASE

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OBJECTIVES: Osteoporosis treatment involves several therapeutic tools, including long-term drug therapy. Subjects with chronic disorders are more likely to be non-adherent and/or non-persistent to treatment than those with other diseases. Adherence is the extent to which patients take medication as prescribed by their physicians, whereas persistence is the time from treatment initiation to discontinuation. Lack of persistence is common among subjects using oral anti-osteoporotic drugs, and leads to increased risk of fragility fracture. The aim of our study is to analyze the rates and reasons for discontinuation of anti-osteoporotic drugs in the Campania Region. **METHODS:** The study was a retrospective cohort study. Patients, aged ≥ 40 years, were enrolled if at least one prescription for any antiosteoporotic drugs had been filled from July 1, 2009 through June 30, 2010. Data were retrieved from an administrative database of medications prescription in Campania region. Patients were followed from the index date until the antiosteoporotic therapy discontinuation or end of the observation period (June, 30, 2011). **RESULTS:** A total of 30,048 were incident users of anti-osteoporotic drugs: 1, 731 (5.8%) males and 28,317 (94.2%) females. The mean age [SD] of the cohort was 69.0 [10.0] years. Weekly bisphosphonate (51.1%), was the most commonly prescribed drug. In the overall cohort study, persistence rates were 34, 8% after 6 months, 13, 4% at one year. A multivariate Cox proportional hazard analysis showed that daily regimen (HR 1,9) treatments remained at a higher risk of early discontinuation compared to weekly regimen therapies. Patients who started treatment with a co-prescription with calcium and vitamin D had a lower risk of early discontinuation (HR 0.7). **CONCLUSIONS:** Our data showed that the persistence to osteoporosis therapy is significantly worse than reported in literature. A better osteoporosis management should include drugs with less frequent dosing, to obtain both an increase in rate of persistence and a reduction in side-effect.

PMS67

USE OF MEDICATION REMINDERS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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OBJECTIVES: In this study we determined the characteristics of patients with RA who used these aids, and the association of reminder use with adherence. **METHODS:** 201 patients with RA were included in this prospective cohort study examining treatment adherence. At baseline patients were asked if they used any special reminders such as pill containers, calendars, or diaries. Patients completed two self-reported adherence questionnaires: the Compliance Questionnaire Rheumatology and the Adult AIDS Clinical Trials Group adherence questionnaire. Disease activity measures included number of swollen joints, number of tender joints, disease activity score (DAS28), and patient global assessment. Functional status was evaluated with the modified Health Assessment Questionnaire (MHAQ). **RESULTS:** Mean age of the patients was 51 years, 75% were female, 53% were Hispanic, 25% white, and 21% African American. Sixty-eight (34%) patients reported using a reminder: 53 (26%) used special pill containers, 12 (6%) used calendars, and 3 (1%) diaries. Factors associated with the use of reminders were older age (p=0.004), being white vs. Hispanic or African American (p=0.003), being male vs. female (p=0.005). Working patients were less likely to report using reminders (p=0.006). No association was observed between education levels and use of aids. Use of reminders was associated with domains of self-reported adherence: adherence while away from home (r=0.16, p=0.03), when busy (r=0.16, p=0.03), and when running out of pills (r=0.15, p=0.04). **CONCLUSIONS:** Older patients, males, and whites were more likely to use these aids, more often pill containers. Our study shows that reminders can assist patients with RA in taking their medications, particularly in situations when they are most prone to forget including being away from home or busy. Use of reminders should be encouraged by providers as a low cost aid to enhance adherence.

PMS68

TREATMENT PERSISTENCE WITH SUBCUTANEOUS BIOLOGIC THERAPIES IN PATIENTS WITH PSORIATIC ARTHRITIS (PSA)

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OBJECTIVES: The objective of this study was to describe persistence with subcutaneous biologic over 12 months for newly treated PsA patients and evaluate the impact of prior DMARD use. **METHODS:** This was a retrospective analysis using IMS Disease Analyzer-Germany, an electronic medical records database. Adult (≥18 years of age) PsA patients who initiated therapy with subcutaneous biologics between January 1, 2009 and June 30, 2012 were included in the analysis. The first subcutaneous biologic prescription date served as their index date. Continuous observation of at least 12 months pre- and post-index date was required. Patients who were prescribed any biologic during the pre-index period or diagnosed with rheumatoid arthritis, ankylosing spondylitis, crohn's disease, or ulcerative colitis during the study period were excluded from the study population. A chi-square test was used to measure differences between patients with and without use of pre-index DMARD. A multivariate logistic regression was created to assess the impact of DMARD use on persistence, controlling for baseline characteristics. **RESULTS:** A total of 197 biologic-naïve PsA patients were selected. Of these, 89 were free of PsO. The mean (SD) age of the patients was 49 (11) years, with 50% being female. The majority of patients (61%) indexed on adalimumab, while the remainder indexed on etanercept (35%) and golimumab (4%). In the overall PsA population, the persistence rate with the index subcutaneous biologic was 54.3%, with similar results among those with and without DMARD use (53% vs 56%, respectively). Multivariate analysis did not identify any significant predictors for persistence, including DMARD use (OR: 1.05;